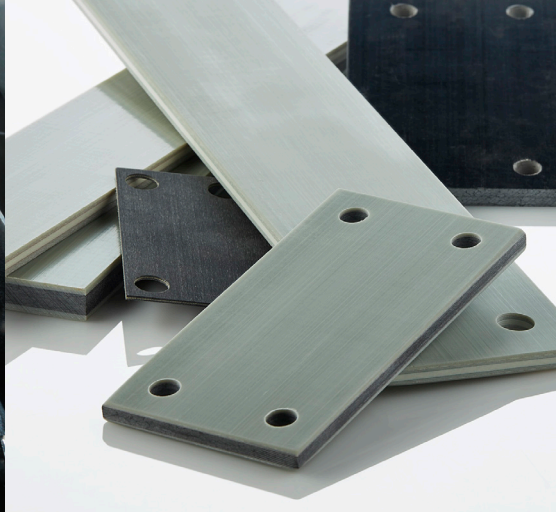




Challenge Accepted.

# COMPOSITE SPRINGS SHAKE UP THE STATUS QUO

 **AVIENT™**      » **CASE STUDY: GORDON COMPOSITES™ VIBRATORY CONVEYOR SPRINGS**





## MANUFACTURER GAINS PERFORMANCE AND SHEDS COST WITH ADVANCED COMPOSITES

### THE CHALLENGE

Vibratory conveyors are frequently used to process a variety of materials, from heavy duty powder and bulk solids to delicate berries and potato chips. Flat springs are critical components in the vibratory conveyor system. They transfer energy and maintain consistent motion of the conveyor pan over billions of cycles throughout the life of the machine. If a spring fails due to fatigue, the effect on the conveyor can be devastating – leading to a cascading failure of additional springs as they take on increased, unintended loads. Fiber reinforced composites are a popular material of choice for reliable performance, providing high flexural strength and excellent resistance to heat, moisture, and chemical exposure.

A leading manufacturer/distributor in this market was faced with quality inconsistencies and supply availability issues with flat springs that were initially specified for their vibratory conveyors. They turned to Avient for answers.

### THE SOLUTION

The company's product management team reached out to Avient's Gordon Composites group to identify an alternative spring solution. Drawing on over 65 years of composite expertise in manufacturing high performance archery bow limbs - which require consistent, deep deflection under high loads each time the bowstring is pulled - the Gordon Composites team has translated this technology into continuous fiber reinforced composite springs that are specifically engineered to meet the rigorous demands of vibratory conveyors.

Working together to understand the unique requirements for the company's conveyor application, the engineering team at Avient developed customized flat springs that provide more consistent quality and longer fatigue life than the original components, improving conveyor performance and longevity.

### THE IMPACT

Not only did the Gordon Composites vibratory springs outperform the company's originally specified spring components, they provided a number of additional benefits:

#### **Ready-to-install springs reduced labor and simplified installation**

Unlike alternative springs, Gordon Composites springs are factory machined to the required size and pre-drilled for a significant reduction in cutting and drilling processes and allowing valuable labor time to be allocated elsewhere.

#### **High temperature formulations made flat springs an economical option**

Gordon Composites high-temp springs are specially formulated to withstand temperatures up to 300° F. These conditions typically require heavy-duty steel coil spring conveyors. With a high-heat flat spring option, manufacturers can potentially reduce overall conveyor system costs compared to higher priced coil spring systems.

#### **Made in the USA**

Avient's Gordon Composites vibratory springs are manufactured in Montrose, Colorado using materials sourced from US suppliers.

**To learn more, please contact Avient at 1.844.4AVIENT (1.844.428.4368) or visit [www.avient.com/composites](http://www.avient.com/composites).**